Leaf structure.—Most botanists are familiar with the contributions of Dr. COCKAYNE to our knowledge of the flora of New Zealand and the adjacent islands. On his trip to the southern islands several years ago, he brought back a number of living plants which are now growing in the rockery of Canterbury College. These plants have been made the subject of an anatomical investigation by Miss HERRIOTT.[31] In spite of the uniform climate of the southern islands, many if not most of the plants reveal xerophytic structures. The author cites two conditions in these island regions which may be regarded as xerophytic. One is the frequence and violence of the wind, and the other is the peaty soil.—H. C. COWLES.

Forestry.—Two recent bulletins of the Bureau of Forestry will be of some interest to ecological workers. One of the bulletins[32] describes the valley and ridge forests of Kansas and Nebraska and their economic possibilities. The natural extension of both types of forest is discussed, but this subject will be well known to all through work of Professor C. E. BESSEY. The other bulletin[33] is almost wholly of economic interest, but ecologists will find some notes on the natural reproduction of the white pine in the old fields of New England.—H. C. COWLES.

Hygroscopic mechanisms.—STEINBRINCK, who has given particular attention to hydrophysics, summarizes for non-technical readers the mechanisms of shrinkage and cohesion in plants.[34] It is these mechanisms which are concerned chiefly in the rupture of capsules and sporangia. The current conceptions as to the rupture of the latter particularly need correction, and the article is commended to students. In his *Literaturübersicht* he has indeed overlooked American literature on this subject.—C. R. B.

Biology of Dunaliella.—In 1905 TEODORESCO described[35] Dunaliella as a new genus of Volvocaceae, giving an account of its structure and life history. In a second paper[36] he has begun an account of certain "biological observations." In this first instalment these observations deal with changes in the form of the body, cell structure, cell division, sexual reproduction, and the resting condition.—J. M. C.

---

[31] HERRIOTT, E. M., On the leaf structure of some plants from the southern islands of New Zealand. Trans. N. Z. Inst. **38**:377–422. 1906.

[32] KELLOGG, R. S., Forest belts of western Kansas and Nebraska. U. S. Dept. Agric., Forest Service, Bull. 66. 1905.

[33] SPRING, S. N., The natural replacement of white pine on old fields in New England. U. S. Dept. Agric., Bureau of Forestry, Bull. 63. 1905.

[34] STEINBRINCK, C., Ueber Schrumfungs- und Kohäsions-mechanismen von Pflanzen. Biol. Centralbl. **26**:657–677, 721–744. *figs. 28*. 1905.

[35] Beih. Bot. Centralb. **18**:215–232. 1905.

[36] TEODORESCO, E. C., Observations morphologiques et biologiques sur le genre Dunaliella. Rev. Gén. Botanique **18**:353–371. *pls. 2*. 1906.